



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: A.G. Filler et al. Attorney Docket No: UOFW16938  
Serial No: 08/028,795 Group Art Unit:  
Filed: March 8, 1993 Examiner:  
Title: IMAGE NEUROGRAPHY AND DIFFUSION ANISOTROPY IMAGING

INFORMATION DISCLOSURE STATEMENT

Seattle, Washington 98101

March 14, 1994

TO THE COMMISSIONER OF PATENTS AND TRADEMARKS:

Applicants are aware of the information listed in the attached form that may be material to the prosecution of the above-identified patent application. Copies of the listed patent documents and other information are enclosed for the Examiner's use. Pursuant to 37 C.F.R. § 1.97(b), this Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. Please charge any additional fees or credit any overpayment to Deposit Account No. 03-1740. A copy of this request is enclosed.

Nine U.S. patent documents U1-U9, three foreign patent documents F1-F3, and 38 other publications O1-O38 are cited as being relevant to the examination of this case. So as to assist the Examiner's consideration of the present application in view of this large number of references, the references have been grouped under particular categories as follows.

The U.S. patent documents U1-U3 have been grouped under the heading GENERAL PURPOSE MR SEQUENCES, as these patents teach general purpose sequences for magnetic resonance (MR) imaging. The U.S. patent documents U4-U9 have been categorized under the heading MR IMAGING OF FLUID FLOW, as these patents teach techniques for imaging fluid flow, generally, blood flow.

1 Under the heading IMMOBILIZING SPLINTS, the foreign patent document F1 has been  
2 listed because it teaches a structure for immobilizing an eye ball, and the publication O38 has been  
3 listed as it is in part directed to an articulated splint used in imaging. The foreign patent document F2  
4 and the publications O18-022 have been listed under the heading FAT SUPPRESSION, as they  
5 describe the use of fat suppression in MR imaging. The foreign patent document F3 has been listed  
6 under the heading MR GUIDED SURGICAL SYSTEMS because it describes a neurosurgical system  
7 that uses a computerized axial tomography (CAT) or MR device.

8 The publications O1-O17 have been listed under the heading DIFFUSION WEIGHTED MR  
9 IMAGING. These 17 publications have been broken down into subcategories. As the publications  
10 O1-O15 are directed to neural structures, they are grouped under the subheading Neural Structures,  
11 and the publications O16 and O17 have been listed under the subheading Non-Neural Structures, as  
12 these publications are directed to MR imaging of non-neural structures. The publications O1-O15  
13 under the subheading Neural Structures have been further sub-categorized. The publications O1-O9  
14 have been listed under the subheading Imaging Diffusion, as these publications are directed to  
15 imaging diffusion in neural structures. The publications O10-O14 have been listed under the  
16 subheading Diffusion Measurement, as these publications are directed to MR techniques for  
17 measuring diffusion in neural structures. The publication O15 has been listed under the subheading  
18 Analysis of Structure and Function of Diffusion because it discusses theoretical aspects of diffusion in  
19 neural structures, in particular, the brain.

20 Under the heading SPIN ECHO IMAGING OF NEURAL STRUCTURES, the publications  
21 023-032 have been listed and further broken down into the following subcategories. Under the  
22 subcategory  $T_1$ ,  $T_2$  Weighted Sequences for Imaging Peripheral Nerves, the publications O23-O29  
23 have been listed because these publications are directed to the use of  $T_1$  and/or  $T_2$  weighted  
24 sequences for imaging peripheral nerves. The publication O30 has been listed under the subheading  
25  $T_2$  Weighted Imaging of Brain, as it is directed to the use of  $T_2$  weighted sequences for imaging the

1 brain. The publication O31 has been listed under the subheading Spin Echo Imaging of Spinal  
2 Nerves, as it is directed to the general use of spin echo imaging to image spinal nerves. The  
3 publication O32 has been listed under the subheading Spin Echo and STIR Sequence Imaging of  
4 Optic Nerve, as this reference is directed to using Spin Echo and STIR sequences for MR imaging of  
5 the optic nerve.


6 The publication O33 has been listed under the heading THREE DIMENSIONAL MR  
7 IMAGE GENERATION, as the publication discloses a voxel connection routine for generating three  
8 dimensional MR images of angiographic data.

9 The publications O34 and O35 are directed to using contrast agents in imaging of neural  
10 structures, and have accordingly been listed under the heading CONTRAST AGENT IMAGING OF  
11 NEURAL STRUCTURES.

12 The publications O36 and O37 have been listed under the heading PHASED-ARRAY COIL  
13 SYSTEM, as these publications are directed to phase-array coil systems for MR imaging for  
14 improving image resolution.

15 Respectfully submitted,

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19 Steven J. Pollinger  
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21  
22 I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a  
23 sealed envelope as first class mail with postage thereon fully prepaid addressed to: Commissioner of  
Patents and Trademarks, Washington, D.C. 20231, on March 14, 1994

24 Date: March 14, 1994 Martina Placid

25 SJP:mlp/gls